

Appl. No.: 09/626,437
Amdt. Dated: March 29, 2004
Reply to Office Action of: October 27, 2003

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Listing of Claims:

Claim 1 (previously amended): A method for delivering data from a service application to a subscriber device by means of a Public Switched Telephone Network (PSTN) comprising an originating node and a terminating node, wherein the service application interfaces the PSTN through the originating node and the subscriber device interfaces the PSTN through the terminating node, and wherein the PSTN has no embedded knowledge of the service application, said method comprising the steps of:

creating a request message at the service application wherein the request message comprises the data and data delivery instructions;

transporting the request message from the central server to the PSTN over the originating node-service application interface;

routing the request message from the originating node to the terminating node via a Transaction Capabilities Application Part (TCAP) message;

transporting the data from the terminating node to the subscriber device over the terminating node – subscriber device interface based on the data delivery instructions;

defining a response message at the terminating node wherein the response message comprises status data indicating the status of the delivery of the data to the subscriber device; and

routing the response message from the terminating node to the service application.

Claim 2 (previously amended): The method of claim 1 wherein the originating node - service application interface is a Simplified Message Desk Interface.

Claim 3 (previously amended): The method of claim 1 wherein the originating node - service application interface is a Non-call Associated Signaling Integrated Services Digital Network interface.

Claim 4 (previously amended): The method of claim 1 wherein the terminating node – subscriber device interface is a GR-30-CORE interface.

Claim 5 (previously amended): The method of claim 1 wherein the terminating node – subscriber device interface is a Non-call Associated Signaling Integrated Services Digital Network interface.

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Claim 6 (previously amended): The method of claim 1 wherein the terminating node – subscriber device interface is a Digital Subscriber Loop interface.

Claim 7 (previously amended): The method of claim 1 wherein the step of routing the request message is based on a PSTN address of the subscriber device and includes the steps of:
obtaining a Local Routing Number if the address has been ported; and
routing the request message based on the Local Routing Number if the address has been ported.

Claim 8 (canceled).

Claim 9 (previously amended): The method of claim 1 wherein transporting the data to the subscriber device occurs regardless of whether the subscriber device is off-hook or on-hook.

Claim 10 (previously amended): The method of claim 1 wherein transporting the data to the subscriber device does not require subscriber interaction.

Claim 11 (previously cancelled).

Claim 12 (previously amended): The method of claim 1 wherein the PSTN further comprises a packet switch and the service application interfaces the PSTN through the packet switch, wherein the step of transporting the request message from the service application to the PSTN occurs through the packet switch, and wherein the step of transporting the response message from the PSTN to the service application occurs from the packet switch.

Claims 13-14 (previously cancelled).

Claim 15 (currently amended): The method of claim 1 wherein the step of transporting the data to the subscriber device further includes the step of over-riding vertical services defined for the terminating node - subscriber device interface based on the data delivery instructions.

Claims 16 (previously cancelled).

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Claim 17 (previously amended): The method of claim 31 wherein the list of subscriber devices specified in the request message is specified as a range of addresses.

Claim 18 (previously amended): The method of claim 31 wherein the list of subscriber devices specified in the request message is specified as all numbers within a NPA-NXX available on the node.

Claim 19 (previously amended): The method of claim 31 wherein transporting the data to each subscriber device occurs regardless of whether the subscriber device is off-hook or on-hook.

Claim 20 (previously amended): The method of claim 31 wherein transporting the data to each subscriber device does not require subscriber interaction.

Claim 21-24 (previously cancelled).

Claim 25 (previously amended): The method of claim 31 wherein the plurality of subscriber devices are served by a plurality of nodes, said method further comprising the steps of:

- defining a plurality of request messages at the central server, one request message per node, wherein each request message comprises the data and data delivery instructions whereby the delivery instructions specify to the corresponding node a list of possible subscriber devices served by the node that should receive the data;
- routing each request message to its node; and
- transporting, at each node, the data to the corresponding list of subscriber devices based on the data delivery instructions.

Claim 26 (original): The method of claim 25 wherein a community notification service resides on the central server, said method broadcasting community notification information to the plurality of subscriber devices.

Claim 27 (currently amended): The method of claim 31 further including the steps of:

- defining at the node a response message comprising the individual subscriber devices to which the node could not deliver the data because said subscriber devices had been ported;
- transporting the response message from the node to the central server;

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defining a plurality of request messages at the central server to cover the subscriber devices specified in the response message, wherein each request message comprises the generic data and data delivery instructions; and
delivering the plurality of request messages to nodes serving the ported subscriber devices.

Claim 28 (previously cancelled).

Claim 29 (currently amended): A method for delivering data from a central server to a subscriber device by means of a PSTN based node, wherein the central server interfaces the PSTN, and wherein the node has no embedded knowledge of the data, said method comprising the steps of:

defining a request message at the central server wherein the request message comprises the data and data delivery instructions instructing the node on how to deliver the data to the subscriber device;

transporting the request message from the central server to the node without establishing a call; and

delivering the data to the subscriber device based on the data delivery instructions.

Claim 30 (previously amended): The method of claim 29 further including the steps of:

recording in a response message the status of the delivery of the data to the subscriber; and

transporting the response message to the central server.

Claim 31 (currently amended): A method for broadcasting data from a central server to a plurality of subscriber devices by means of a PSTN based node, wherein the central server interfaces the PSTN, and wherein the node has no embedded knowledge of the generic data, said method comprising the steps of:

defining a request message at the central server wherein the request message comprises the data and data delivery instructions, whereby the delivery instructions specify to the node a list of possible subscriber devices served by the node that should receive the data;

routing the request message from the central server to the node without establishing a call; and

delivering the data, based on the delivery instructions, to the list of subscriber devices.

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Claims 32-34 (previously cancelled).

Claim 35 (previously amended): A method for enhancing Unified Messaging Services wherein a multi-functional server interfaces both a PSTN and an Internet and a subscriber device interfaces the PSTN through a switch, and wherein the multi-functional server receives subscriber messages from the PSTN and Internet, said method comprising the steps of:

- defining a request message at the multi-functional server wherein the request message comprises data concerning the subscriber messages received from the PSTN and Internet, and wherein the request message further comprises delivery instructions instructing the switch on how to deliver the data to the subscriber device;

- transporting the request message from the multi-functional server to the switch without establishing a call; and

- delivering the data to the subscriber device based on the data delivery instructions.

Claim 36 (previously amended): The method of claim 35 wherein a commercial Web server is interfaced to the Internet, said method further comprising the steps of:

- pushing data from the commercial Web servers to the multi-functional server; and

- wherein the defined request message comprises the data pushed from the commercial Web Server.

Claim 37 (previously added): The method of claim 31 further comprising routing the request message based on a PSTN address of one of the subscriber devices specified in the list of subscriber devices.

Claim 38 (previously added): The method of claim 29 wherein a user of the subscriber device establishes a voice-band connection as a result of receiving the data.

Claim 39 (previously added): The method of claim 38 wherein the user retrieves information over the voice-band connection.

Claim 40 (previously added): The method of claim 29 wherein the subscriber device automatically establishes a connection as a result of receiving the data and retrieves information over the connection.

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Claim 41 (previously added): The method of claim 35 wherein a user of the subscriber device, as a result of receiving the data, establishes a connection to the multi-functional server and retrieves the PSTN and Internet messages.

Claim 42 (currently amended): The method of claim 35 wherein the subscriber device, as a result of receiving the ~~generic~~ data, automatically establishes a connection to the multi-functional server and retrieves the PSTN and Internet messages.

Claim 43 (currently amended): A method for delivering data from a central server to a wireless device by means of a PSTN based node, a service profiler, and a wireless network, wherein the service profiler is interfaced to both the node and the wireless network, wherein the central server interfaces the PSTN, and wherein the node has no embedded knowledge of the data, said method comprising the steps of:

defining a request message at the central server wherein the request message comprises the data and data delivery instructions;

transporting the request message from the central server to the node without establishing a call;

delivering the data to the service profiler based on the data delivery instructions; and

delivering the data from the service-profiler to the wireless device via the wireless network.

Claim 44 (currently amended): A PSTN based network node that includes a system for delivering data to subscriber devices wherein the system comprises:

means for receiving a request message wherein the request message comprises the data and data delivery instructions; and

means for delivering the data to one or more subscriber devices according to the data delivery instructions and without having knowledge of the data format.

Claim 45 (currently amended): The ~~system node~~ of claim 44 wherein the system further comprising comprises means for creating and transmitting a response message.

Claim 46 (currently amended): A PSTN based node comprising:

means for receiving data from an application interfacing the PSTN;

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means for distinguishing the data as a type comprising service information and implementation information wherein the implementation information describes how to deliver the service information; and

means for transmitting the data over a packet interface if the data is of the type comprising service and implementation information.

Claim 47 (currently amended): The ~~system~~ node of claim 46 wherein the system further ~~comprising~~ comprises means for receiving and transmitting response data.

Claim 48 (canceled).

Claim 49 (currently amended): A method executed by a service application for sending data through a PSTN, said method comprising:

creating a message wherein the message comprises the data; and

transmitting said message without establishing a call, wherein the service application resides outside the PSTN and ~~The method of claim 48~~ wherein the message further comprises customized delivery options for instructing the PSTN on how to deliver the data.

Claim 50 (previously added): The method of claim 49 further comprising the step of receiving a response message comprising response data.